



Marked-Up Version Of Amendments Submitted With
Amendment; Response To Office Action Mailed September 24, 2002

In The Specification:

On page 38, the paragraph beginning on line 14:

As used herein, "a method of treating a hydrocarbon containing formation" may be used interchangeably with "an in situ conversion process for hydrocarbons." "Hydrocarbons" are generally defined as ~~organic material that contains~~ molecules formed primarily by carbon and hydrogen atoms. ~~carbon and hydrogen in their molecular structures.~~ Hydrocarbons may also include other elements, such as, but not limited to, halogens, metallic elements, nitrogen, oxygen, and/or sulfur. Hydrocarbons may be, but are not limited to, kerogen, bitumen, pyrobitumen, and oils. Hydrocarbons may be located within or adjacent to mineral matrices within the earth. Matrices may include, but are not limited to, sedimentary rock, sands, silicilytes, carbonates, diatomites, and other porous media.

On page 64, the paragraph beginning on line 11:

As shown in FIG. 3, in addition to heat sources 100, one or more production wells ~~102~~ 104 will typically be disposed within the portion of the hydrocarbon containing formation. Formation fluids may be produced through production well 104. ~~Production well 102 may be configured such that a mixture that may include formation fluids may be produced through the production well.~~ Production well ~~102~~104 may also include a heat source. In this manner, the formation fluids may be maintained at a selected temperature throughout production, thereby allowing more or all of the formation fluids to be produced as vapors. Therefore high temperature pumping of liquids from the production well may be reduced or substantially eliminated, which in turn decreases production costs. Providing heating at or through the production well tends to: (1) ~~prevent~~ inhibit condensation and/or refluxing of production fluid when such production fluid is moving in the production well proximate to the overburden, (2)

increase heat input into the formation, and/or (3) increase formation permeability at or proximate the production well.

In The Claims:

4904. (amended) A method of sequestering carbon dioxide within a hydrocarbon containing formation, comprising:

providing heat from one or more heaters to a portion of the formation to increase a permeability of the portion such that the permeability is substantially uniform~~heating a portion of the formation to increase permeability and form a substantially uniform permeability within the portion;~~

allowing the portion to cool; and

storing carbon dioxide within the portion.

4906. (amended) The method of claim 4904, further comprising raising a water level ~~within the~~ portion to inhibit migration of the carbon dioxide from the portion.

4907. (amended) The method of claim 4904, further comprising heating the portion to release at least a portion of the stored carbon dioxide, and removing the released carbon dioxide from the portion.

4908. (amended) The method of claim 4904, further comprising pyrolyzing at least some hydrocarbons ~~within the portion during~~ the providing of heating ~~to~~ the portion, and removing pyrolyzation product from the formation.

4909. (amended) The method of claim 4904, further comprising producing synthesis gas from the portion during ~~the providing of heating~~ to the portion, and removing synthesis gas from the formation.

4910. (amended) The method of claim 4904, wherein providing heat from one or more heaters ~~to heating~~ the portion comprises:

~~heating~~ providing heat from one or more of the heaters to hydrocarbon containing material adjacent to one or more wellbores to increase a temperature of the hydrocarbon containing material to a temperature sufficient to support oxidation of the hydrocarbon containing material with an oxidizing fluid;

introducing the oxidizing fluid to the hydrocarbon containing material adjacent to the one or more wellbores to oxidize the hydrocarbons and produce heat; and

~~conveying~~ allowing the produced heat to transfer to the portion.

4911. (amended) The method of claim 4910, wherein at least one of the one or more heaters comprises an electrical heater ~~heating hydrocarbon containing material adjacent to the one or more wellbores comprises electrically heating the hydrocarbon containing material.~~

4913. (amended) The method of claim 4904, wherein providing heat from one or more of the heaters to ~~heating~~ the portion comprises circulating heat transfer fluid through one or more heating wells ~~within~~ the formation.

4916. (amended) The method of claim 4904, further comprising removing fluid from the formation during the providing of heat to the portion ~~heating of the formation~~, and combusting a portion of the removed fluid to generate heat to heat the formation.

4917. (amended) The method of claim 4904, wherein at least a portion of the stored carbon dioxide comprises excess carbon dioxide from a hydrocarbon bed demethanation process ~~further comprising using at least a portion of the carbon dioxide for hydrocarbon bed demethanation prior to storing the carbon dioxide within the portion.~~

4918. (amended) The method of claim 4904, wherein at least a portion of the stored carbon dioxide was used for enhanced oil recovery ~~further comprising using a portion of the carbon dioxide for enhanced oil recovery~~ prior to storing the carbon dioxide within the portion.

4923. (amended) The method of claim 4904, wherein storing carbon dioxide in the portion comprises adsorbing carbon dioxide onto hydrocarbon containing material within the formation.

4925. (amended) The method of claim 4904, wherein an amount of carbon dioxide stored ~~within~~ the portion is equal to or greater than an amount of carbon dioxide generated ~~within~~ the portion and removed from the formation during the providing of heating to the portion.

4926. (amended) The method of claim 4904, further comprising providing heat from three or more heaters ~~sources~~ to at least a portion of the formation, wherein three or more of the heaters ~~sources~~ are located in the formation in a unit of heaters ~~sources~~, and wherein the unit of heaters ~~sources~~ comprises a triangular pattern.

4927. (amended) The method of claim 4904, further comprising providing heat from three or more heaters ~~sources~~ to at least a portion of the formation, wherein three or more of the heaters ~~sources~~ are located in the formation in a unit of heaters ~~sources~~, wherein the unit of heaters ~~sources~~ comprises a triangular pattern, and wherein a plurality of the units are repeated over an area of the formation to form a repetitive pattern of units.